FMC Idaho LLC, Pocatello, Idaho

FMC OU Soil Remedial Action

Performance Standards Verification Plan For RA-J and Cleaning Stormwater Piping In RA-A

RA-A Stormwater Pipe Cleaning Report

July 2015

MWH

FMC OU Site-Wide Grading Phase
Performance Standards Verification Plan for RA-J and Cleaning Stormwater Pipe in RA-A

RA-A Stormwater Pipe Cleaning Report

July 20, 2015

1.0 INTRODUCTION

The Performance Standards Verification Plan for RA-J and Cleaning Stormwater Pipe in RA-A (PSVP) presents the performance verification monitoring requirements for the cleaning of stormwater piping (SWP) underlying Remediation Area-A (RA-A) of the FMC Operable Unit (FMC OU) of the Eastern Michaud Flats (EMF) Superfund Site.

In accordance with EPA's September 5, 2014 approval of the July 2014 Engineering Design Submittal and Remedial Action Work Plan (RAWP) for the Site-Wide Grading Phase, and the EPA-directed modifications that were incorporated into the September 2014 Engineering Design Submittal and RAWP for Site-Wide Grading, FMC through its remedial action contractor began implementing the site-wide grading phase of the soil remedial action. This work included cleaning the SWP in RA-A. The RA-A SWP cleaning work began during the week of April 27, 2015 and was substantially completed during the week of May 25, 2015. Based on actual conditions observed in the field, FMC requested a meeting with EPA to report on the progress of the work and facilitate review of the post-cleaning SWP survey videos. On June 10, 2015, FMC provided an in-person report on the progress and status of the SWP cleaning work during a meeting with EPA, the Idaho Department of Environmental Quality (IDEQ) and the Shoshone-Bannock Tribes.

Based on the discussions during the June 10, 2015 meeting and consistent with the PSVP, FMC proceeded with preparation of this RA-A SWP Cleaning Report. This report includes the figure, tables and videos that were reviewed during the June 10 meeting. Also included are the laboratory analytical reports that were requested during the meeting, video 5 and photographs of the SWP showing the SWP cleaned ex-situ from Area Inlet 2 to Area Inlet 4, and videos 6 and 7 showing the video inspection of the previously unmapped 10-inch SWP aligned west and east from the previously unmapped manhole (designated Manhole #2) that was identified during the video inspection from the east discharge to Area Inlet 1. The following lists these included materials:

Figure 1. Stormwater Pipe Locations and Access Ports (follows text)

Table 1. Summary of RA-A Stormwater Pipe Cleaning Wash Water Analytical Results (Section 4)

Table 2. Summary of RA-A Stormwater Pipe Cleaning Sediment Analytical Results and P4 Smoke Test Results (Section 4)

Attachment 1 – SWP Cleaning Wash Water and Sediment Sample Log

Attachment 2 – Laboratory Reports for Wash Water and Sediment Sample Analyses

Attachment 3 – Post-Cleaning SWP Video Surveys (on CD) and photographs for the following SWP segments:

- Video 1 From Area Inlet 4 to West Discharge
- Video 2 From Manhole 1 to Area Inlet 3
- Video 3 From East Discharge to Area Inlet 1
- Video 4 From Area Inlet 3 to Area Inlet 4
- Video 5 SWP Cleaned Ex-situ from Area Inlet 2 to Area Inlet 4
- Photographs of the SWP Cleaned Ex-situ from Area Inlet 2 to Area Inlet 4
- Video 6 From Manhole 2 West in West 10-inch Pipe
- Video 7 From Manhole 2 East in East 10-inch Pipe

2.0 FIELD ACTIVITIES PERFORMED TO CLEAN THE SWP IN RA-A

As described in the RAWP, the SWP cleaning and abandonment work was expected to be conducted on approximately 840 feet of 8" steel and 16" concrete pipe. The work began by locating all of the required access points to the pipes, as shown on Figure 1. FMC's remedial action contractor's subcontractor, KASE/Warbonnet, Inc. (KW), and KW's subcontractor, Roto-Rooter, then cleaned the pipe with a jetting system and collected the water and sediment downstream in lined containment areas prior to transferring that material to containers.

As described during the June 10, 2015 meeting, the observed configuration of three segments of the SWP was different than expected based on the underground utilities map that was developed during the Supplemental Remedial Investigation (SRI) for the FMC OU. The SWP segments that were different could not have been foreseen based on the somewhat limited access of video equipment to the SWP performed during the Remedial Design Data Gap investigation. As shown on Figure 1, the differences in the SWP configuration as mapped during the SRI, observed during the Remedial Design Data Gap investigation, and that observed during the April and May SWP cleaning work were the following:

- The mapped SWP segment from Area Inlet (AI) #5 connecting to the 8-inch line between AI #2 and AI #4 does not exist;

- The mapped SWP segment connecting from AI #3 to AI #1 does not exist; and
- A previously unmapped manhole with 10-inch piping leading to the west and east was encountered south of AI #1 (south of the East discharge to AI #1 segment).

A summary of the RA-A SWP cleaning work is set forth below.

Preparation Work

- On 4/28/2015, 6 sections of 16-inch precast concrete pipe at the north end of the west discharge line (in RA-K) were removed to facilitate access and solids containment.
- Lined solids/liquid containment systems were constructed.
- Water management systems (containers) were set up.

SWP Cleaning Work

- On 5/4/2015, KW performed a Job Planning and Safety Analysis (JPSA) with Roto-Rooter, and then KW / Roto-Rooter began cleaning the SWP in RA-A.
- As of 5/11/2015, Roto-Rooter had completed cleaning the SWP segments listed below with a 3,000 pounds per square inch (psi) pressure washing system. During this process, a flexible, fiber-optic camera was run through the cleaned SWP sections and then additional cleaning was performed on sections where sediments were observed. This resulted in multiple high-pressure wash passes through each segment.
    - West Discharge to AI #4: 15 to 20 passes
    - AI #4 to AI #3: 10 to 12 passes
    - AI #3 to Manhole #1: 5 to 6 passes
    - East Discharge to AI #1: 5 passes
- As described during the meeting on June 10, 2015, initial attempts to clean the 8-inch steel SWP segment from AI #4 to AI #2 were only marginally successful due to poor water return. A fiber-optic camera inspection revealed that the bottom of this 8-inch line was badly corroded. Therefore, the only practicable method to clean that segment of the pipe was to excavate that SWP segment. On 5/12/2015, the 8-inch line from AI #4 to AI #2 was excavated, cleaned ex-situ, videoed to confirm the pipe had been cleaned, and placed back in its original alignment. The excavation area then was backfilled.

- During the week of 5/18/2015, Roto-Rooter performed high pressure cleaning with a gamma-head pressure washer and additional cleaning of the West Discharge to Manhole #1 as follows:
    - High (8,000 psi) pressure wash from West Discharge to Manhole #1: 4 to 5 passes
    - Additional 3,000 psi cleaning from West Discharge to Manhole #1: 5 to 6 additional passes
- During the video survey of the SWP segment from the East Discharge to AI #1, an unmapped extension of the SWP was observed that extended south of AI #1 and terminated at an unmapped 4-foot by 4-foot concrete manhole (designated Manhole #2). On 5/27/2015, approximately 3 inches of asphalt pavement was removed to expose the cover of Manhole #2. With the manhole cover open, visual observation confirmed that there are two previously unmapped 10-inch pipes extending from Manhole #2, one to the west and one to the east, with pipe inverts (bottom) at a depth of about 4 feet below ground surface. The newly-discovered SWP segment, Manhole #2, and the 10-inch pipes extending from Manhole 2 were not shown on any of the FMC plant drawings used during the SRI to develop the underground utilities map. Based on a visual inspection of the areas to the east and west of Manhole 2, there are no apparent inlets to the 10-inch pipes connected to the manhole. It is likely that any historic inlets were paved over, as the manhole was itself.

Over the course of the RA-A SWP cleaning project, approximately 60,000 gallons of water were used and recovered to perform the pressure washing of the RA-A SWP, and approximately 250 cubic feet (cf) of sediments/solids were cleaned out. The 250 cf volume of removed sediment in the RA-A SWP is very close to the Remedial Design Data Gap estimate of 294 cf sediment/solids that was presented in the PSVP.

SWP Video Inspections

- Following the intensive efforts to clean the SWP segments, on 5/21/2015 a remote-controlled, vehicle-mounted video survey was performed to confirm completion of the SWP cleaning. A summary of the SWP video survey is presented in Section 3 below.
- Video surveys of the previously unmapped 10-inch pipes leading to the west and east from Manhole #2 were performed on 6/30/2015 to assess the condition (potential sediment accumulation) and alignment/length of these pipes. The remote-controlled, vehicle-mounted camera could not be used due to the narrow diameter of these pipes, so a flexible fiber-optic camera was pushed along the pipe inverts instead. The 10-inch lines

(east and west) were videoed to a distance of approximately 80 feet from the pipe openings in Manhole #2, which was the practical limit for "pushing" the flexible cable. The video confirmed that these lines run essentially due east and due west from Manhole #2 and do not have any side connections or visible inlets within the sections videoed.

3.0 SUMMARY OF VIDEO SURVEYS OF SWP IN RA-A

In accordance with the PSVP, a video survey was performed after cleaning and before abandonment to confirm that the SWP cleaning had been completed. During the June 10, 2015 meeting, the attendees watched the videos from the vehicle-mounted video survey conducted in all of the cleaned SWP segments, except for the segment of SWP cleaned ex-situ from AI #2 to AI #4 and the videos of the previously unmapped 10-inch pipes leading east and west from Manhole #2 (described below). The following videos were viewed during the meeting and are provided on CD in Attachment 3:

- Video 1 From Area Inlet 4 to West Discharge
- Video 2 From Manhole 1 to Area Inlet 3
- Video 3 From East Discharge to Area Inlet 1
- Video 4 From Area Inlet 3 to Area Inlet 4

Video 1 (the distance counter reading at upper left of video starts at 5.0 feet) shows some gravelly material remaining in the invert (bottom) of the 16-inch concrete pipe segment from AI #4 that starts at 5 feet and continues to 45 feet north from AI #4 (toward the West discharge). The gravelly material is up to a few inches thick in some locations, but overall the walls down to the invert are visually clean. From 45 feet north from AI #4 to the West discharge outlet (106 feet total distance traveled to outlet), the walls and invert of the pipe are visually clean.

Video 2 (distance counter starts at 4 feet) shows that the walls and invert of the 16-inch concrete pipe are clean of sediments to about 55 feet northwest from Manhole #1. The video shows one to three inches of water in the pipe invert from 55 to 75 feet, but no visible gravelly material. Sandy/gravelly material in the pipe invert is visible at 75 feet and continues to 106 feet northwest from Manhole #1. The video ends at 106 feet because the camera-mounted vehicle lost traction in the silty/sandy soil and was unable to continue.

Video 3 (distance counter starts at 3 feet) shows that the walls and invert of the 16-inch concrete pipe are visually clear of sediments to 18 feet south of the East discharge. From 18 feet to 21 feet, minor gravelly material, approximately 1 to 2 inches thick, is visible in the pipe invert. From about 21 feet to 58 feet, the walls and invert are visually clear of sediments. From about 58 feet to 72 feet, gravelly material is visible in the invert. From 72 feet to AI #1 the walls and invert are visually clear of sediments. From AI #1, where the camera-mounted vehicle was able to continue south through the previously unmapped segment of pipe to the unmapped manhole, some gravelly material is visible at 85 feet south from the East discharge. A piece of debris, possibly concrete, is visible at 97 feet and gravelly material is visible in the invert at the

previously unmapped manhole (Manhole #2) at 112 feet. At that manhole, the camera pans left and right, showing the previously unmapped 10-inch pipes entering from the west and east side of the manhole.

Video 4 (distance counter starts at 5 feet) starts inside AI #3 where one to six inches of gravelly material is visible in the invert and right side-wall of the invert of the 16-inch concrete pipe inside AI #3. The camera-mounted vehicle was unable to proceed further in this segment of pipe due to the unevenly sloped sediments from the side of the pipe to the invert and the potential to tip over and damage the vehicle and camera.

As described above, the 8-inch line from AI #4 to AI #2 was excavated, cleaned ex-situ, and photographed and videoed to confirm the pipe had been cleaned. The photographs and video (on CD) are contained in Attachment 3 to this report. Video 5 shows that each segment (A through E) of the 8-inch steel pipe from AI #4 to AI #2 was clean and free of visible sediment prior to placing the pipe back in its original alignment and backfilling the excavation. The video shows the cleaned interior of each section of the removed pipe as follows: Section A was 28 feet in length, B was 35 feet, C was 21 feet, D was 35 feet and E was 50 feet. The photographs provide a good view of the pipe sections and close-up views of cleaned pipe surfaces.

As described above, Videos 6 and 7 were recorded using a flexible fiber-optic camera that was pushed along the invert of the previously unmapped 10-inch pipes aligned toward the west and east, respectively, from Manhole 2. Video 6 (distance counter starts at -3 feet) starts just inside the west pipe opening in Manhole 2 and advances west. At about 5.5 feet, there is a joint where the pipe angles upward. Some pooled water can be seen in the invert at about 38 feet. Overall there is some scale on the bottom of the pipe and occasional small debris (leaves, seeds and small gravel) to about 67.5 feet on the counter, at which point the flexible cable could not be advanced any further. The video confirms that the west line runs essentially due west from Manhole #2 without any side connections or inlets within the section videoed.

Video 7 (distance counter starts at 1 foot) starts just inside the east pipe opening in Manhole 2 and advances east. At about 7 feet, an accumulation of sticks and leaf debris appears stuck at a joint where the pipe angles upward. Some pooled water can be seen in the invert starting at about 35 feet. Overall there is some scale on the bottom of the pipe and occasional small debris (leaves, seeds and small gravel) to about 80 feet, at which point the flexible cable could not be advanced any further. The video confirmed that the east line runs essentially due east from Manhole #2 without any side connections or inlets within the section videoed. As shown on Figure 1, the east pipe was videoed to a point about 20 to 30 feet west of the conveyor (C4) tunnel. Given the depth of the eastward 10-inch pipe, that pipe could not extend beyond the C4 conveyor tunnel.

4.0 RA-A SWP CLEANING WATER AND SEDIMENTS CHARACTERIZATION RESULTS

The SWP cleaning water and sediments were containerized and the solids were allowed to settle prior to characterization sampling. Both the water and sediment were sampled for waste characterization purposes. As specified in the RAWP, following characterization the water and sediment were appropriately managed and disposed of per the Transportation and Off-Site Disposal Plan (TODP) for the FMC OU (June 2014). The following provides specific detail regarding the evaluation of the generated water and sediment and their disposition.

In accordance with the RAWP and TODP, the sediment and water collected during the RA-A SWP cleaning were placed in containers on-site pending waste characterization. Water samples were analyzed for TCLP metals and pH analysis. Sediment samples were analyzed for TCLP analysis, and visually examined and tested for the presence of P4. In accordance with Table 2.1 of the TODP, P4 was visually identified by examining sediments removed from the underground piping. Representative samples of the sediment were collected from each container and the samples were dried on a hot plate. As the samples dried, the samples were observed for any visible smoke (phosphorus pentoxide).

As shown on Table 1 below, the TCLP and pH results for the RA-A SWP wash water confirmed the preliminary waste determination that the wash water is non-hazardous. Per the TODP, the wash water was used for dust control on-site.

Table 1. Summary of RA-A Stormwater Pipe Cleaning Wash Water Analytical Results

		TCLP Analyte								
Sample No. / Date		Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	pH
Toxicity Limit (mg/L)		5.0	100	1.0	5.0	5.0	0.2	1.0	5.0	
IAS Sample No.	Sample Date									
I505013-01	05/04/15	<0.05	0.06	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	7.2
I505039-01	05/06/15	<0.05	<0.05	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	7.7
I505047-01	05/07/15	<0.05	<0.05	<0.05	0.11	<0.05	<0.01	<0.05	<0.05	8.2

Notes
All metals results in milligrams per liter (mg/L)
TCLP Analysis by USEPA Analysis Method 1311/6020A

As shown on Table 2 below, the TCLP results for the sediments removed from the RA-A SWP cleaning confirmed the preliminary waste determination that the sediments do not exhibit the toxicity characteristic. Further, no smoke was observed during the P4 hot plate testing of the sediment samples. The SWP sediments are still containerized on-site. In accordance with the TODP, they will be used as general fill in RA-B and ultimately will be covered by the RA-B ET cap.

Table 2. Summary of RA-A Stormwater Pipe Cleaning Sediment Analytical Results and P4 Smoke Test Results

Sample No. / Date			TCLP Analyte								P4 Smoke
			Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium	Silver	
Toxicity Limit (mg/L)			5.0	100	1.0	5.0	5.0	0.2	1.0	5.0	
KW Sample No.	IAS Sample No.	Sample Date									
SDS -1	I504139-01	04/28/15	<0.05	0.15	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	No
SDS -2	I505061-01	05/08/15	<0.05	0.07	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	No
SDS -3	I505067-01	05/11/15	<0.05	0.09	<0.05	<0.05	0.05	<0.01	<0.05	<0.05	No
SDS -4	I505109-01	05/18/15	<0.05	0.23	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	No
SDS -5	I505109-02	05/18/15	<0.05	0.11	<0.05	<0.05	<0.05	<0.01	<0.05	<0.05	No
SDS -6		05/18/15									No
SDS -7		05/18/15									No
SDS -8		05/18/15									No

Notes
All metals results in milligrams per liter (mg/L)
TCLP Analysis by USEPA Analysis Method 1311/6020A
P4 means elemental phosphorus

5.0 RA-A SWP CLEANING PROJECT FINDINGS AND RECOMMENDATIONS

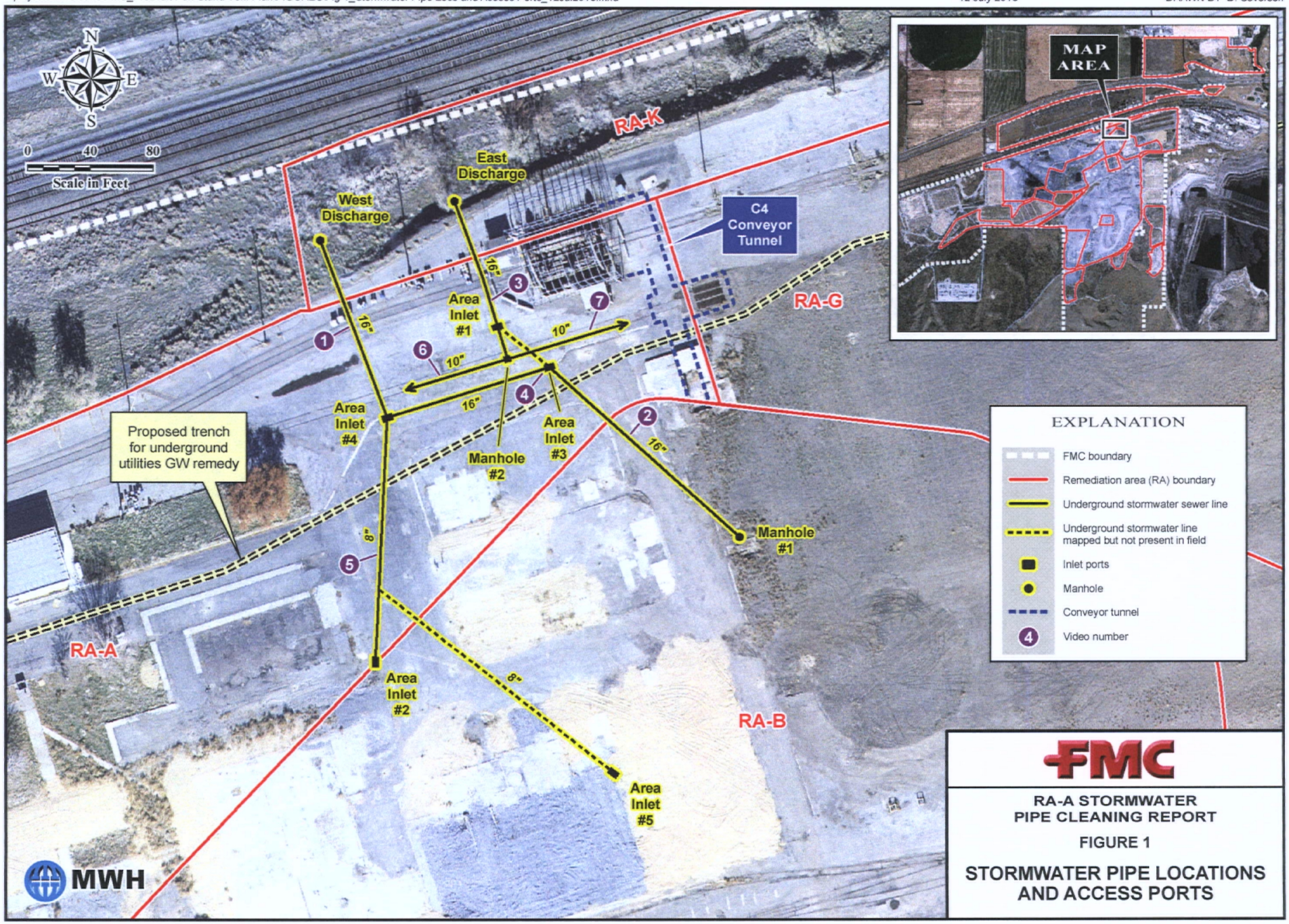
As FMC discussed during the meeting on June 10, 2015, the SWP segments connected to the West discharge (Manhole #1 to AI #3, AI #3 to AI #4, and AI #4 to the West discharge) have been cleaned to the extent practicable using pressure washing techniques typically used to clean stormwater pipe in-situ. The 8-inch line from AI #4 to AI #2 (connected to the West discharge system) was cleaned ex-situ and there were no sediments remaining in that pipe prior to returning it to its original alignment and backfilling the trench. Based on the wash water and sediment analytical results and P4 visual testing of the sediments, the wash water and removed sediments are non-hazardous and there is no visual indication that P4 is present at concentrations that could ignite or smoke. Based on this information, FMC requested and EPA verbally provided approval for proceeding with plugging and abandonment of the SWP segment from Manhole #1 to AI #3. The abandonment will consist of grouting the line completely from Manhole #1 to AI #3 with cement grout. As discussed during the meeting, KW will perform a JPSA, including consideration of potential displacement of sediments into AI #3, before performing the abandonment work.

FMC requests EPA concurrence to proceed with plugging and abandonment of the other Area Inlets and discharges connected to the West discharge system, specifically AI #2, AI #4, and the West discharge outlet pipe.

The video inspection from the East discharge to AI #1 revealed a previously unmapped section of SWP extending south from AI #1 to the also previously unmapped Manhole #2 and the 10-inch pipes extending toward the east and west from that manhole. FMC performed a flexible, fiber optic video survey of the 10-inch pipes extending west and east from Manhole 2. Based on those videos, the two 10-inch pipelines connected to Manhole 2 do not have significant sediment accumulation, are aligned due east and west from Manhole 2, and have no observed connections within the approximately 80-foot sections of each pipe that were accessible with the flexible camera that could extend to RA-B.

The pipe heading east from Manhole 2 could not extend further east more than 20 to 30 feet beyond the approximate 80-foot length that was surveyed by video, since at that point the pipe would truncate against the conveyor tunnel ("C4 conveyor tunnel") foundation wall as shown on Figure 1. Assuming the 10-inch pipe leading west from Manhole #2 has an angled joint (per video) that is sloped to drain at a typical minimum slope of 2-degress (about 0.03 percent), the west pipe would daylight to the surface at about 115 feet from the angled joint (about 40 feet beyond the extent of the video survey). Thus, any former inlets to the 10-inch pipes from the east and west leading to Manhole #2 likely originated in RA-A and are already abandoned (paved-over). Therefore, FMC is requesting EPA concurrence to proceed with plugging and abandonment of Manhole #2, Area Inlet #1 and the East discharge connected to the East discharge system.

I:\projects\FMCidaho\FMC_PreDraft Perf Stand Verif Plan\FIGURES\Fig 1_Stormwater Pipe Locs and Access Ports_12Jul2015.mxd 12 July 2015 DRAWN BY D. Severson



Attachment 1

SWP Cleaning Wash Water and Sediment Sample Log

RA-A Stormwater Pipe Cleaning - Wash Water and Sediment Sample Log

Sample ID	Sample Date	S/L	Analysis / Test	Sample Description
I504139-01 (SDS -1)	4/28/2015	S	TCLP	042815-SDNW / Sample of solids out of west culvert discharge before cleaning commenced
I505013-01	5/4/2015	L	TCLP/PH	Storm Water Decant / Sample of water out of roll off bin
I505039-01	5/6/2015	L	TCLP/PH	050615-SD#2 /Sample of water from roll off bin while cleaning west culvert
I505047-01	5/7/2015	L	TCLP/PH	050715-SD#2 /Sample of water from roll off bin while cleaning west culvert
I505061-01 (SDS- 2)	5/8/2015	S	TCLP	050815-SD /Solids Sample of solids out of collection trough on west culvert from cleaning #1 & 2 sections
I505067-01 (SDS-3)	5/11/2015	S	TCLP	051115-SDS#3/ Sample of solids out of collection trough on west culvert from cleaning #3 section
I505109-01 (SDS-4)	5/18/2015	S	TCLP	051815-ESD/Sample of solids from collection trough from cleaning section #5
I505109-02 (SDS-5)	5/18/2015	S	TCLP	051815-WSD/Sample of solids from collection trough from cleaning sections #1,#2 & #3
SDS-1	4/28/2015	S	P4 Smoke Generation	Composite sample from pipe removed during preliminary work (west culvert)
SDS-2	5/8/2015	S	P4 Smoke Generation	Composite sample of solids from week 1 cleanout of west drain line (section 1 ans 2)
SDS-3	5/11/2015	S	P4 Smoke Generation	Composite sample of solid removed during cleaning of pipe section #3
SDS-4	5/18/2015	S	P4 Smoke Generation	Composite /Sample of solids from collection trough from cleaning section #5
SDS-5	5/18/2015	S	P4 Smoke Generation	Composite sample of solids removed from east drain line during final week of cleaning sections #1,#2 & #3
SDS - 6_051815 #1 RO west 1	5/18/2015	S	P4 Smoke Generation	Composite sample of solids from west roll off bin
SDS - 7_051815 #3 RO East 3	5/18/2015	S	P4 Smoke Generation	Composite sample of solids from east roll off bin
SDS - 8 _051815 #2 RO Center 2	5/18/2015	S	P4 Smoke Generation	Composite sample of solids from center oll off bin

S/L means solid (S) or liquid (L) sample
P4 means elemental phosphorus

Attachment 2

Laboratory Reports for Wash Water and Sediment Sample Analyses

IAS EnviroChem

3314 Pole Line Rd. • Pocatello, ID 83201
Phone: (208) 237-3300 • Fax: (208) 237-3336
email: iasec3308@iasenvirochem.com • www.iasenvirochem.com

Kase Warbonnet Inc.
Mark R. Smith
1477 Thunderbolt
Pocatello, ID 83201

Date Submitted: 05/04/2015
Date Reported: 05/05/2015

Certificate of Analysis

Sample Description: Storm Water Decant DAY 1 CLEANING WATER SAMPLE
Lab Tracking #: I505013-01
Sampling Date/Time: 05/04/15 13:00

Analyte	*Result*	*Units*	*Method*	*Analyzed*	*Analyst*
pH	7.2	Units	150.1	05/04/2015	CCH
TCLP Arsenic	< 0.05	mg/L	1311/6010C	05/04/2015	CCH
TCLP Barium	0.06	mg/L	1311/6010C	05/04/2015	CCH
TCLP Cadmium	< 0.05	mg/L	1311/6010C	05/04/2015	CCH
TCLP Chromium	< 0.05	mg/L	1311/6010C	05/04/2015	CCH
TCLP Lead	< 0.05	mg/L	1311/6010C	05/04/2015	CCH
TCLP Mercury	< 0.01	mg/L	1311/7470A	05/04/2015	CCH
TCLP Selenium	< 0.05	mg/L	1311/6010C	05/04/2015	CCH
TCLP Silver	< 0.05	mg/L	1311/6010C	05/04/2015	CCH

ND = Not Detected
All solids are reported on a dry weight basis unless otherwise noted.

G. Ryan Pattie
Laboratory Director

IAS EnviroChem

3314 Pole Line Rd. • Pocatello, ID 83201
Phone: (208) 237-3300 • Fax: (208) 237-3336
email: iasec3308@iasenvirochem.com • www.iasenvirochem.com

Login Report

Customer Name: **Kase Warbonnet Inc.**
1477 Thunderbolt
Pocatello, ID 83201

Work Order #: **I505013**

Contact Name: **Mark R. Smith**
Comment:

Sample Description: **Storm Water Decant**
Lab Tracking #: **I505013-01**
Matrix: **Water**
Sample Notes:

Sampling Date/Time: **05/04/15 13:00**
Date Received: **05/04/15 13:36**

Test	*Method*	*Due*
pH	**150.1**	**05/05/15**
TCLP Arsenic	**1311/6010C**	**05/05/15**
TCLP Barium	**1311/6010C**	**05/05/15**
TCLP Cadmium	**1311/6010C**	**05/05/15**
TCLP Chromium	**1311/6010C**	**05/05/15**
TCLP Lead	**1311/6010C**	**05/05/15**
TCLP Mercury	**1311/7470A**	**05/05/15**
TCLP Selenium	**1311/6010C**	**05/05/15**
TCLP Silver	**1311/6010C**	**05/05/15**

Sample Condition Record

Samples received in a cooler?	No
Samples received intact?	Yes
The temperature recorded?	24.3
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all samples properly preserved?	Yes
Labels and chain agree?	Yes

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

1505013
Kase Warehouse Inc.
Received: 05/04/2015

IAS EnviroChem - 3314 Pole Line Rd • Pocatello, ID 83201

P: (208) 237-3300 F: (208) 237-3336 • Email: iasec3308@iasenvirochem.com

Company Name	KASE/WarBonnet
Contact	MARC SMITH
Address	1477 THUNDERBOLT
City St Zip	
Phone	208 ~~232 6276~~ 681-8224
Email	

Special Instructions

Lab Use 1 Sample

Send Bill or Receipt To: _____

Payment due with samples unless credit has been established

Email Invoice to: _____

☐ Cash ☐ Bill ☐ Check# _____ ☐ PO # _____

☐ Other _____

Amount $ _____ Received by _____

SAMPLE INFORMATION

Analyses Requested

TRK # (Lab use)	Sample Description	Date/Time Collected	Number of Containers	Matrix (W=Water, WW=Waste Water, S=Solid, L=Liquid, O=Oil)	7470	pH												
	STORM WATER DECANT	5/4/15 1300Hrs			X	X												

Comments

R

1 day

6010

Lee

RELINQUISHED BY

Signature: Mark Smith

Printed Name: MARK R SMITH

Date/Time: 5/4/15 1335

RECEIVED BY

Signature: Karen Cates

Printed Name: Karen Cates

Date/Time: 050415 1336

Lab Use Only

Temp 24.3 °C

Received in a cooler? YES NO

Labels and Chain Agree? YES NO

IAS EnviroChem

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Phone: (208) 237-3300 • Fax: (208) 237-3336
email: iasec3308@iasenvirochem.com • www.iasenvirochem.com

Kase Warbonnet Inc.
Mark R. Smith
1477 Thunderbolt
Pocatello, ID 83201

Date Submitted: 05/06/2015
Date Reported: 05/07/2015

Certificate of Analysis

Sample Description: 050615-SD#2 DAY 3 CLEANING WATER SAMPLE
Lab Tracking #: I505039-01
Sampling Date/Time: 05/06/15 08:50

Analyte	*Result*	*Units*	*Method*	*Analyzed*	*Analyst*
pH	7.7	Units	150.1	05/06/2015	CMB
TCLP Arsenic	< 0.05	mg/L	1311/6010C	05/06/2015	CCH
TCLP Barium	< 0.05	mg/L	1311/6010C	05/06/2015	CCH
TCLP Cadmium	< 0.05	mg/L	1311/6010C	05/06/2015	CCH
TCLP Chromium	< 0.05	mg/L	1311/6010C	05/06/2015	CCH
TCLP Lead	< 0.05	mg/L	1311/6010C	05/06/2015	CCH
TCLP Mercury	< 0.01	mg/L	1311/7470A	05/06/2015	CCH
TCLP Selenium	< 0.05	mg/L	1311/6010C	05/06/2015	CCH
TCLP Silver	< 0.05	mg/L	1311/6010C	05/06/2015	CCH

ND = Not Detected
All solids are reported on a dry weight basis unless otherwise noted.

G. Ryan Pattie
Laboratory Director

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Login Report

Customer Name: **Kase Warbonnet Inc.**
1477 Thunderbolt
Pocatello, ID 83201

Work Order #: **I505039**

Contact Name: **Mark R. Smith**
Comment:

Sample Description: **050615-SD#2**
Lab Tracking #: **I505039-01**
Matrix: **Waste Water**
Sample Notes:

Sampling Date/Time: **05/06/15 8:50**
Date Received: **05/06/15 10:48**

Test	*Method*	*Due*
pH	**150.1**	**05/20/15**
TCLP Arsenic	**1311/6010C**	**05/20/15**
TCLP Barium	**1311/6010C**	**05/20/15**
TCLP Cadmium	**1311/6010C**	**05/20/15**
TCLP Chromium	**1311/6010C**	**05/20/15**
TCLP Lead	**1311/6010C**	**05/20/15**
TCLP Mercury	**1311/7470A**	**05/20/15**
TCLP Selenium	**1311/6010C**	**05/20/15**
TCLP Silver	**1311/6010C**	**05/20/15**

Sample Condition Record

Samples received in a cooler?	No
Samples received intact?	Yes
The temperature recorded?	17.4
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all samples properly preserved?	Yes
Labels and chain agree?	Yes

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

1505039
Kase Warbonnet Inc.
Received: 05/06/2015
RP

IAS EnviroChem - 3314 Pole Line Rd • Pocatello, ID 83201

P: (208) 237-3300 F: (208) 237-3336 • Email: iasec3308@iasenvirochem.com

Company Name	KASE/Warbonnet
Contact	MARK Smith + Gary Resh
Address	1477 Thunderbolt
City St Zip	Pocatello Id 83201
Phone	208-232-6276
Email	

Special Instructions

24 Hour Turnaround

Lab Use C

1 Sample

Send Bill or Receipt To: KASE/Warbonnet

Payment due with samples unless credit has been established

Email Invoice to:

☐ Cash ☒ Bill ☐ Check# ☐ PO #

☐ Other

Amount $ Received by

SAMPLE INFORMATION

Analyses Requested

Comments

R

1day

TRK # (Lab use)	Sample Description	Date/Time Collected	Number of Containers	Matrix (W=Water, WW=Waste Water S=Solid, L=Liquid, O=Oil)	TCLP	pH
	050615-SD #2	5/6/15 0850	1	WW	X	X

RELINQUISHED BY

Signature: [signature]

Printed Name: Gary R. Resh

Date/Time: 050615 1098

RECEIVED BY

Signature: Taken Cates

Printed Name: Taken Cates

Date/Time: 050615 1048

Lab Use Only

Temp 17.4 °C

Received in a cooler? YES NO

Labels and Chain Agree? YES NO

Page 3 of 3

IAS EnviroChem

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Kase Warbonnet Inc.
Mark R. Smith
1477 Thunderbolt
Pocatello, ID 83201

Date Submitted: 05/07/2015
Date Reported: 05/07/2015

Certificate of Analysis

Sample Description: 050715-SD #2 DAY 4 CLEANING WATER SAMPLE
Lab Tracking #: I505047-01
Sampling Date/Time: 05/07/15 07:55

Analyte	*Result*	*Units*	*Method*	*Analyzed*	*Analyst*
pH	8.2	Units	150.1	05/07/2015	CCH
TCLP Arsenic	< 0.05	mg/L	1311/6010C	05/07/2015	CCH
TCLP Barium	< 0.05	mg/L	1311/6010C	05/07/2015	CCH
TCLP Cadmium	< 0.05	mg/L	1311/6010C	05/07/2015	CCH
TCLP Chromium	0.11	mg/L	1311/6010C	05/07/2015	CCH
TCLP Lead	< 0.05	mg/L	1311/6010C	05/07/2015	CCH
TCLP Mercury	< 0.01	mg/L	1311/7470A	05/07/2015	CCH
TCLP Selenium	< 0.05	mg/L	1311/6010C	05/07/2015	CCH
TCLP Silver	< 0.05	mg/L	1311/6010C	05/07/2015	CCH

ND = Not Detected
All solids are reported on a dry weight basis unless otherwise noted.

G. Ryan Pattie
Laboratory Director

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Login Report

Customer Name: **Kase Warbonnet Inc.**
1477 Thunderbolt
Pocatello, ID 83201

Work Order #: **I505047**

Contact Name: **Mark R. Smith**
Comment:

Sample Description: **050715-SD #2**
Lab Tracking #: **I505047-01**
Matrix: **Waste Water**
Sample Notes:

Sampling Date/Time: **05/07/15 7:55**
Date Received: **05/07/15 9:10**

Test	*Method*	*Due*
pH	**150.1**	**05/21/15**
TCLP Arsenic	**1311/6010C**	**05/21/15**
TCLP Barium	**1311/6010C**	**05/21/15**
TCLP Cadmium	**1311/6010C**	**05/21/15**
TCLP Chromium	**1311/6010C**	**05/21/15**
TCLP Lead	**1311/6010C**	**05/21/15**
TCLP Mercury	**1311/7470A**	**05/21/15**
TCLP Selenium	**1311/6010C**	**05/21/15**
TCLP Silver	**1311/6010C**	**05/21/15**

Sample Condition Record

Samples received in a cooler?	No
Samples received intact?	Yes
The temperature recorded?	18.1
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all samples properly preserved?	Yes
Labels and chain agree?	Yes

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

1505047
Kase Warbonnet Inc.
Received: 05/07/2015
1 Sample

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P: (208) 237-3300 F: (208) 237-3336 • Email: iasec3308@iasenvirochem.com

Company Name	KASE/WARBONNET
Contact	MARK SMITH
Address	1477 THUNDERBOLT
City St Zip	POCATELLO ID 83201
Phone	208-232-6276
Email	

Special Instructions

PLEASE RUSH - 24 HR TURNAROUND
CALL MARK SMITH AT 681 8227 WHEN
ANALYSIS READY.

Lab Use O

Send Bill or Receipt To: KASE/WARBONNET

Payment due with samples unless credit has been established

Email Invoice to:

☐ Cash ☒ Bill ☐ Check# ____ ☐ PO # ____

☐ Other ____

Amount $ ____ Received by ____

SAMPLE INFORMATION

Analyses Requested

TRK # (Lab use)	Sample Description	Date/Time Collected	Number of Containers	Matrix (W=Water, WW=Waste Water, S=Solid, L=Liquid, O=Oil)	TCLP	pH											
	050715-SD #2	5/7/15 0755	1	WW	X	X											

Comments

2

RELINQUISHED BY

Signature: Allen Hall
Printed Name: Allen Hall
Date/Time: 5/7/15 0910

RECEIVED BY

Signature: Tyson Pettee
Printed Name: Tyson Pettee
Date/Time: 050715 0910

Lab Use Only

Temp 18.1 °C
Received in a cooler? YES NO
Labels and Chain Agree? YES NO

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Kase Warbonnet Inc.
Mark R. Smith
1477 Thunderbolt
Pocatello, ID 83201

Date Submitted: 04/28/2015
Date Reported: 05/04/2015

Certificate of Analysis

Sample Description: 042815-SDNW
Lab Tracking #: I504139-01
Sampling Date/Time: 04/28/15 10:45

SOLIDS FROM WEST OUTFALL CULVERTS REMOVED.

Analyte	Result	Units	Method	Analyzed	Analyst
TCLP Arsenic	< 0.05	mg/L	1311/6020A	04/29/2015	RP
TCLP Barium	0.15	mg/L	1311/6020A	04/29/2015	RP
TCLP Cadmium	< 0.05	mg/L	1311/6020A	04/29/2015	RP
TCLP Chromium	< 0.05	mg/L	1311/6020A	04/29/2015	RP
TCLP Lead	< 0.05	mg/L	1311/6020A	04/29/2015	RP
TCLP Mercury	< 0.01	mg/L	1311/6020A	04/29/2015	RP
TCLP Selenium	< 0.05	mg/L	1311/6020A	04/29/2015	RP
TCLP Silver	< 0.05	mg/L	1311/6020A	04/29/2015	RP

ND = Not Detected
All solids are reported on a dry weight basis unless otherwise noted.

G. Ryan Pattie
Laboratory Director

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Login Report

Customer Name: **Kase Warbonnet Inc.**
1477 Thunderbolt
Pocatello, ID 83201

Work Order #: **I504139**

Contact Name: **Mark R. Smith**
Comment:

Sample Description: **042815-SDNW**
Lab Tracking #: **I504139-01**
Matrix: **Solid**
Sample Notes:

Sampling Date/Time: **04/28/15 10:45**
Date Received: **04/28/15 11:10**

Test	*Method*	*Due*
TCLP Arsenic	**1311/6020A**	**05/05/15**
TCLP Barium	**1311/6020A**	**05/05/15**
TCLP Cadmium	**1311/6020A**	**05/05/15**
TCLP Chromium	**1311/6020A**	**05/05/15**
TCLP Lead	**1311/6020A**	**05/05/15**
TCLP Mercury	**1311/6020A**	**05/05/15**
TCLP Selenium	**1311/6020A**	**05/05/15**
TCLP Silver	**1311/6020A**	**05/05/15**

Sample Condition Record

Samples received in a cooler?	No
Samples received intact?	Yes
The temperature recorded?	20.2
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all samples properly preserved?	Yes
Labels and chain agree?	Yes

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

15041139
Kase Warbonnet Inc.
Received: 04/28/2015
1 Sample

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Company Name	KASE/WARBONNET
Contact	MARK Smith
Address	1477 Thunderbolt
City St Zip	Pocatello Id 83201
Phone	208-232-6276
Email	

Special Instructions

Lab Use

Send Bill or Receipt To: KASE/WARBONNET

Payment due with samples unless credit has been established

Email Invoice to:

☐ Cash ☒ Bill ☐ Check# ____ ☐ PO # ____

☐ Other ____

Amount $ ____ Received by ____

SAMPLE INFORMATION

Analyses Requested

Comments

R

3-5

TRK # (Lab use)	Sample Description	Date/Time Collected	Number of Containers	Matrix (W=Water, WW=Waste Water S=Solid, L=Liquid, O=Oil)	d/TCL													
	042815-SDNW	4/28/15 1045	1	S	X													

RELINQUISHED BY

Signature: Allen Hull

Printed Name: Allen Hull

Date/Time: 4-28-2015 1106

RECEIVED BY

Signature: Karen Cates

Printed Name: KAREN CATES

Date/Time: 042815 1110

Lab Use Only

Temp 20.2 °C

Received in a cooler? YES NO

Labels and Chain Agree? YES NO

SL

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Kase Warbonnet Inc.
Mark R. Smith
1477 Thunderbolt
Pocatello, ID 83201

Date Submitted: 05/08/2015
Date Reported: 05/13/2015

Certificate of Analysis

Sample Description: 050815-SD Solids
Lab Tracking #: I505061-01
Sampling Date/Time: 05/08/15 13:10

SOLIDS FROM WEST OUTFALL CONTAINER
MATERIAL FROM WEST DISCHARGE TO AL-4 AND AL-4 TO AL-3

Analyte	*Result*	*Units*	*Method*	*Analyzed*	*Analyst*
pH	7.0	Units	150.1	05/11/2015	MAD
TCLP Arsenic	< 0.05	mg/L	1311/6010C	05/12/2015	CCH
TCLP Barium	0.07	mg/L	1311/6010C	05/12/2015	CCH
TCLP Cadmium	< 0.05	mg/L	1311/6010C	05/12/2015	CCH
TCLP Chromium	< 0.05	mg/L	1311/6010C	05/12/2015	CCH
TCLP Lead	< 0.05	mg/L	1311/6010C	05/12/2015	CCH
TCLP Mercury	< 0.01	mg/L	1311/7470A	05/12/2015	CCH
TCLP Selenium	< 0.05	mg/L	1311/6010C	05/12/2015	CCH
TCLP Silver	< 0.05	mg/L	1311/6010C	05/12/2015	CCH

ND = Not Detected
All solids are reported on a dry weight basis unless otherwise noted.

G. Ryan Pattie
Laboratory Director

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Login Report

Customer Name: **Kase Warbonnet Inc.**
1477 Thunderbolt
Pocatello, ID 83201

Work Order #: **I505061**

Contact Name: **Mark R. Smith**
Comment:

Sample Description: **050815-SD Solids**
Lab Tracking #: **I505061-01**
Matrix: **Solid**
Sample Notes:

Sampling Date/Time: **05/08/15 13:10**
Date Received: **05/08/15 15:06**

Test	*Method*	*Due*
pH	**150.1**	**05/15/15**
TCLP Arsenic	**1311/6010C**	**05/15/15**
TCLP Barium	**1311/6010C**	**05/15/15**
TCLP Cadmium	**1311/6010C**	**05/15/15**
TCLP Chromium	**1311/6010C**	**05/15/15**
TCLP Lead	**1311/6010C**	**05/15/15**
TCLP Mercury	**1311/7470A**	**05/15/15**
TCLP Selenium	**1311/6010C**	**05/15/15**
TCLP Silver	**1311/6010C**	**05/15/15**

Sample Condition Record

Samples received in a cooler?	No
Samples received intact?	Yes
The temperature recorded?	21.4
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all samples properly preserved?	Yes
Labels and chain agree?	Yes

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

1505061
Kasr Warbonnet Inc.
Received: 05/08/2015

IAS EnviroChem - 3314 Pole Line Rd • Pocatello, ID 83201
P: (208) 237-3300 F: (208) 237-3336 • Email: lasec3308@iasenvirochem.com

Company Name	KASR Warbonnet
Contact	Mark Smith
Address	1477 Thunderbolt
City St Zip	Pocatello Id 83201
Phone	208-232-6276
Email	

Special Instructions

Lab Use O

1 Sample

Send Bill or Receipt To: KASR WARBONNET

Payment due with samples unless credit has been established

Email Invoice to:

☐ Cash ☒ Bill ☐ Check# ____ ☐ PO # ____

☐ Other ____

Amount $ ____ Received by ____

SAMPLE INFORMATION

TRK # (Lab use)	Sample Description	Date/Time Collected	Number of Containers	Matrix (W=Water, WW=Waste Water, S=Solid, L=Liquid, O=Oil)	Analyses Requested: TCLP	Analyses Requested: pH
	050815-SD Solids	5/5/15 1310	1	S	X	X
	050815-SD #3	5/5/15 0820	1	WW	X	X

Comments

3-5

RELINQUISHED BY

Signature: D.R. Rash

Printed Name: Gary Rash

Date/Time:

RECEIVED BY

Signature: Rebecka A. DeLaTorre

Printed Name: Rebecka A. DeLaTorre

Date/Time: 050815 1500

Lab Use Only

Temp 21.4 °C

Received in a cooler? YES NO

Labels and Chain Agree? YES NO

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Kase Warbonnet Inc.
Mark R. Smith
1477 Thunderbolt
Pocatello, ID 83201

Date Submitted: 05/11/2015
Date Reported: 05/13/2015

Certificate of Analysis

Sample Description: 051115-SDS#3 SOLIDS FROM WEST DISCHARGE CONTAINER
Lab Tracking #: I505067-01 MATERIAL FROM CLEANING A/B TO MANHOLE #1
Sampling Date/Time: 05/11/15 09:30

Analyte	*Result*	*Units*	*Method*	*Analyzed*	*Analyst*
TCLP Arsenic	< 0.05	mg/L	1311/6010C	05/12/2015	CCH
TCLP Barium	0.09	mg/L	1311/6010C	05/12/2015	CCH
TCLP Cadmium	< 0.05	mg/L	1311/6010C	05/12/2015	CCH
TCLP Chromium	< 0.05	mg/L	1311/6010C	05/12/2015	CCH
TCLP Lead	0.05	mg/L	1311/6010C	05/12/2015	CCH
TCLP Mercury	< 0.01	mg/L	1311/7470A	05/12/2015	CCH
TCLP Selenium	< 0.05	mg/L	1311/6010C	05/12/2015	CCH
TCLP Silver	< 0.05	mg/L	1311/6010C	05/12/2015	CCH

ND = Not Detected
All solids are reported on a dry weight basis unless otherwise noted.

G. Ryan Pattie
Laboratory Director

IAS EnviroChem

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Login Report

Customer Name: **Kase Warbonnet Inc.**
1477 Thunderbolt
Pocatello, ID 83201

Work Order #: **I505067**

Contact Name: **Mark R. Smith**
Comment:

Sample Description: **051115-SDS#3**
Lab Tracking #: **I505067-01**
Matrix: **Solid**
Sample Notes:

Sampling Date/Time: **05/11/15 9:30**
Date Received: **05/11/15 9:50**

Test	*Method*	*Due*
TCLP Arsenic	**1311/6010C**	**05/18/15**
TCLP Barium	**1311/6010C**	**05/18/15**
TCLP Cadmium	**1311/6010C**	**05/18/15**
TCLP Chromium	**1311/6010C**	**05/18/15**
TCLP Lead	**1311/6010C**	**05/18/15**
TCLP Mercury	**1311/7470A**	**05/18/15**
TCLP Selenium	**1311/6010C**	**05/18/15**
TCLP Silver	**1311/6010C**	**05/18/15**

Sample Condition Record

Samples received in a cooler?	No
Samples received intact?	Yes
The temperature recorded?	15.8
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all samples properly preserved?	Yes
Labels and chain agree?	Yes

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

1505067
Kake Warbonnet Inc.
Received: 05/11/2015
RP
1 Sample

IAS EnviroChem - 3314 Pole Line Rd • Pocatello, ID 83201

P: (208) 237-3300 F: (208) 237-3336 • Email: lasec3308@iasenvirochem.com

Company Name	KASE/WARBONNET
Contact	Mark Smith 681-8227
Address	1477 Thunderbolt
City St Zip	Pocatello Id 83201
Phone	208-232-6296
Email	

Special Instructions

3-5 Day Rush

Lab Use C

Send Bill or Receipt To: KASE/WARBONNET

Payment due with samples unless credit has been established

Email Invoice to:

☐ Cash ☒ Bill ☐ Check# ____ ☐ PO # ____

☐ Other ____

Amount $ ____ Received by ____

SAMPLE INFORMATION

TRK # (Lab use)	Sample Description	Date/Time Collected	Number of Containers	Matrix (W=Water, WW=Waste Water, S=Solid, L=Liquid, O=Oil)	Analyses Requested: TCLP	Comments
	051115-SDS #3	5/11/15 0930	1	S	X	R

RELINQUISHED BY

Signature: Allan Hull

Printed Name: ALLAN HULL

Date/Time: 5-11-15 0999

RECEIVED BY

Signature: Karen Cates

Printed Name: Karen Cates

Date/Time: 051115 0950

Lab Use Only

Temp 15.8 °C

Received in a cooler? YES NO

Labels and Chain Agree? YES NO

IAS EnviroChem

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Phone: (208) 237-3300 • Fax: (208) 237-3336
email: iasec3308@iasenvirochem.com • www.iasenvirochem.com

Kase Warbonnet Inc.
Mark R. Smith
1477 Thunderbolt
Pocatello, ID 83201

Date Submitted: 05/18/2015
Date Reported: 06/02/2015

Certificate of Analysis

Sample Description: 051815-ESD
Lab Tracking #: I505109-01
Sampling Date/Time: 05/18/15 10:30

SOLIDS FROM EAST DISCHARGE CONTAINER
MATERIAL FROM CLEANING EAST DISCHARGE TO M.H. #1

Analyte	*Result*	*Units*	*Method*	*Analyzed*	*Analyst*
pH	7.5	Units	150.1	05/18/2015	CMB
TCLP Arsenic	< 0.05	mg/L	1311/6020A	05/19/2015	RP
TCLP Barium	0.23	mg/L	1311/6020A	05/19/2015	RP
TCLP Cadmium	< 0.05	mg/L	1311/6020A	05/19/2015	RP
TCLP Chromium	< 0.05	mg/L	1311/6020A	05/19/2015	RP
TCLP Lead	< 0.05	mg/L	1311/6020A	05/19/2015	RP
TCLP Mercury	< 0.01	mg/L	1311/6020A	05/19/2015	RP
TCLP Selenium	< 0.05	mg/L	1311/6020A	05/19/2015	RP
TCLP Silver	< 0.05	mg/L	1311/6020A	05/19/2015	RP

Sample Description: 051815-WSD
Lab Tracking #: I505109-02
Sampling Date/Time: 05/18/15 10:40

SOLIDS FROM WEST DISCHARGE CONTAINER
SOLIDS FROM CLEANING SECTIONS FROM WEST DISCHARGE TO MANHOLE 1

Analyte	*Result*	*Units*	*Method*	*Analyzed*	*Analyst*
pH	7.5	Units	150.1	05/18/2015	CMB
TCLP Arsenic	< 0.05	mg/L	1311/6020A	05/19/2015	RP
TCLP Barium	0.11	mg/L	1311/6020A	05/19/2015	RP
TCLP Cadmium	< 0.05	mg/L	1311/6020A	05/19/2015	RP
TCLP Chromium	< 0.05	mg/L	1311/6020A	05/19/2015	RP
TCLP Lead	< 0.05	mg/L	1311/6020A	05/19/2015	RP
TCLP Mercury	< 0.01	mg/L	1311/6020A	05/19/2015	RP
TCLP Selenium	< 0.05	mg/L	1311/6020A	05/19/2015	RP
TCLP Silver	< 0.05	mg/L	1311/6020A	05/19/2015	RP

ND = Not Detected
All solids are reported on a dry weight basis unless otherwise noted.

G. Ryan Pattie
Laboratory Director

IAS EnviroChem

3314 Pole Line Rd. • Pocatello, ID 83201
Phone: (208) 237-3300 • Fax: (208) 237-3336
email: iasec3308@iasenvirochem.com • www.iasenvirochem.com

Login Report

Customer Name: **Kase Warbonnet Inc.**
1477 Thunderbolt
Pocatello, ID 83201

Work Order #: **I505109**

Contact Name: **Mark R. Smith**
Comment:

Sample Description: **051815-ESD**
Lab Tracking #: **I505109-01**
Matrix: **Solid**
Sample Notes:

Sampling Date/Time: **05/18/15 10:30**
Date Received: **05/18/15 14:55**

Test	*Method*	*Due*
pH	**150.1**	**06/01/15**
TCLP Arsenic	**1311/6020A**	**06/01/15**
TCLP Barium	**1311/6020A**	**06/01/15**
TCLP Cadmium	**1311/6020A**	**06/01/15**
TCLP Chromium	**1311/6020A**	**06/01/15**
TCLP Lead	**1311/6020A**	**06/01/15**
TCLP Mercury	**1311/6020A**	**06/01/15**
TCLP Selenium	**1311/6020A**	**06/01/15**
TCLP Silver	**1311/6020A**	**06/01/15**

Sample Description: **051815-WSD**
Lab Tracking #: **I505109-02**
Matrix: **Solid**
Sample Notes:

Sampling Date/Time: **05/18/15 10:40**
Date Received: **05/18/15 14:55**

Test	*Method*	*Due*
pH	**150.1**	**06/01/15**
TCLP Arsenic	**1311/6020A**	**06/01/15**
TCLP Barium	**1311/6020A**	**06/01/15**
TCLP Cadmium	**1311/6020A**	**06/01/15**
TCLP Chromium	**1311/6020A**	**06/01/15**
TCLP Lead	**1311/6020A**	**06/01/15**
TCLP Mercury	**1311/6020A**	**06/01/15**
TCLP Selenium	**1311/6020A**	**06/01/15**
TCLP Silver	**1311/6020A**	**06/01/15**

Sample Condition Record

Samples received in a cooler?	No
Samples received intact?	Yes
The temperature recorded?	21.3
Samples received with a COC?	Yes
Samples received within holding time?	Yes
Are all samples properly preserved?	Yes
Labels and chain agree?	Yes

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

T505109
Kase Warbonnet Inc.
Received: 05/18/2015
2 Samples

IAS EnviroChem - 3314 Pole Line Rd • Pocatello, ID 83201

P: (208) 237-3300 F: (208) 237-3336 • Email: iasec3308@iasenvirochem.com

Company Name	KASE/Warbonnet
Contact	Mark Smith
Address	1477 Thunderbolt
City St Zip	Pocatello Id 83201
Phone	208-232-6276
Email	

Special Instructions

Lab Use

Send Bill or Receipt To: KASE/Warbonnet

Payment due with samples unless credit has been established

Email Invoice to:

☐ Cash ☒ Bill ☐ Check# ____ ☐ PO # ____

☐ Other ____

Amount $ ____ Received by ____

SAMPLE INFORMATION

Analyses Requested

TRX # (Lab use)	Sample Description	Date/Time Collected	Number of Containers	Matrix (W=Water, WW=Waste Water, S=Solid, L=Liquid, O=Oil)	TCLP
	051815-#1 RO	5-18-15 0945	1	S	X
	051815-#2 RO	5-18-15 1005	1	S	X
	051815-#3 RO	5-18-15 1015	1	S	X
	051815-ESD	5-18-15 1030	1	S	X
	051815-WSD	5-18-15 1040	1	S	X

Comments

Cust called in only wants the TCLP Analyses ran on Sample 051815-ESD and 051815-WSD also requested PH to be added (* Requested Cust provided Corrected COC*)

RELINQUISHED BY

Signature: Allen Hull

Printed Name: ALLEN HULL

Date/Time: 5-18-2015 1453

RECEIVED BY

Signature: Rebecka A. DeLaTorre

Printed Name: Rebecka A DeLaTorre

Date/Time: 051815 1455

Lab Use Only

Temp 21.3 °C

Received in a cooler? YES NO

Labels and Chain Agree? YES NO

IAS EnviroChem - 3314 Pole Line Rd • Pocatello, ID 83201
P: (208) 237-3300 F: (208) 237-3336 • Email: iasec3308@iasenvirochem.com

Company Name: KASE/Warbonnet
Contact: Mark Smith
Address: 1977 Thunderbolt
City St Zip: Pocatello ID 83201
Phone: 208-232-6276
Email:

Send Bill or Receipt To: KASE/Warbonnet
Payment due with samples unless credit has been established
Email Invoice to:
☐ Cash ☒ Bill ☐ Check# ☐ PO #
☐ Other
Amount $ Received by

Special Instructions

Lab Use Only

Analyses Requested

Comments

SAMPLE INFORMATION

TRX # (Lab use)	Sample Description	Date/Time Collected	Number of Containers	Matrix (W=Water, WW=Waste Water, S=Solid, L=Liquid, O=Oil)	TCLP	pH
	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	~~[illegible]~~	
	~~051815-HZRO~~	~~[illegible]~~	~~1~~	~~S~~	~~X~~	
	~~051815-HZRO~~	~~[illegible]~~	~~1~~	~~S~~	~~X~~	
	051815-ESD	5-18-15 1030	1	S	X	X
	051815-WSD	5-18-15 1040	1	S	X	X

RELINQUISHED BY
Signature: Allen Hull
Printed Name: ALLEN HULL
Date/Time: 5-18-2015 1553

RECEIVED BY
Signature: Rebecca M. DeLaTorre
Printed Name: Rebecca M DeLaTorre
Date/Time: 051815 1465

Lab Use Only
Temp: 21.3 °C
Received in a cooler? YES NO
Labels and Chain Agree? YES NO

Attachment 3

Post-Cleaning SWP Video Surveys (on CD)

and

Photographs of the SWP Cleaned Ex-situ from Area Inlet 2 to Area Inlet 4

SWP Cleaned Ex-situ from Area Inlet 2 to Area Inlet 4
Sections B, C and D
Bottom of pipe (corroded out) facing up

SWP Cleaned Ex-situ from Area Inlet 2 to Area Inlet 4
Sections B, C, D and E
Bottom of pipe (corroded out) facing up

SWP Cleaned Ex-situ from Area Inlet 2 to Area Inlet 4
Close-up view of cleaned segment of pipe (typical of Segments A through E)